

**COMMITTEE ON CARCINOGENICITY OF CHEMICALS IN FOOD
CONSUMER PRODUCTS AND THE ENVIRONMENT (COC)**

NON-TECHNICAL SUMMARY

**CONSUMPTION OF ALCOHOLIC BEVERAGES AND RISK OF BREAST
CANCER IN WOMEN**

1. The COC has evaluated all the available published research up to June 2003 on the association between drinking alcohol and breast cancer. The COC also commissioned some specialist research to aid in reaching conclusions.¹ Breast cancer is a complex disease. Information on the range of causes has been considered in detail in the full statement. Further information can be obtained from the Cancer Research UK internet site (<http://www.cancerresearchuk.org/aboutcancer/specificcancers/breastcancer>)
2. The conclusions given below update and replace the previous review by the COC in 1999 which is available on the internet. (<http://www.advisorybodies.doh.gov.uk/coc/index.htm>)
3. The Committee concluded it prudent to assume that drinking alcoholic beverages may result in breast cancer in women.
4. The new research¹ estimates that a woman drinking an average of two units of alcohol per day* has a lifetime risk of developing breast cancer 8% higher than a woman who drinks an average of one unit of alcohol per day. The risk of breast cancer further increases with each additional drink consumed per day. There was no evidence for variation in the association with any specific type of alcoholic drink.
5. The research also concludes that approximately 6% (between 3.2% and 8.8%) of breast cancers reported in the U.K. each year could be prevented if drinking was reduced to a very low level (i.e. less than 1 unit/week). This approximates to between 1290 and 3560 cases of breast cancer out of a total of approximately 41,000 new cases registered each year.
6. The risk of breast cancer associated with drinking alcohol increased with the amount of alcohol consumed. Thus, if a women increased her drinking from the U.K average level of 1 unit per day by an extra 1, 2,

[†]This non-technical summary is intended for the lay reader. Please refer to COC statement (<http://www.advisorybodies.doh.gov.uk/coc/statements.htm>) for full details of COC evaluation and conclusions. 1

or 3 units a day then the incidence of additional cases of breast cancer expected at 60 years and 80 years can be calculated;

The following table summarises the results.

Cumulative Incidence per 1000 women

	Current consumption	+1 unit per day	+2 units per day	+3 units per day
Age 60	60	65	70	75
Age 80	125	134	145	157

7. It is not known precisely how drinking alcohol can lead to breast cancer. The most likely explanation is that drinking alcohol can produce biochemical effects in the liver (such as changes to oestrogen metabolism and effects on growth factors) which if drinking alcohol is prolonged (i.e. over decades) could lead to breast cancer.
8. There is not enough information available to assess whether drinking alcohol can interact with the use of oral contraceptives or hormone replacement therapy by women to increase further the risk of breast cancer. More research on these aspects is required.
9. The Committee was concerned that recent evidence** demonstrated that the consumption of alcohol is increasing mainly in young women. If the increased consumption of alcohol is maintained over most of their lifetime, then the number of alcohol-related breast cancer cases may be even higher in these women than reported in paragraph 5 above. The Committee concluded that it was important to raise awareness of the potential risks of drinking alcoholic beverages, particularly amongst young women.

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References

1. Key J, Hodgson S, Omar R, Kold-Jensen T, Thompson S, Boobis A, Davies D, Elliott P (2003). Alcohol and Breast Cancer: A meta-analysis. In-confidence paper submitted to COC and to Annals of Internal Medicine.

* A standard 'unit' of alcohol contains 8grams of ethanol, the amount usually found in half a pint of normal strength beer, or cider, a single measure of spirits, or one small glass of ordinary wine. In recent years

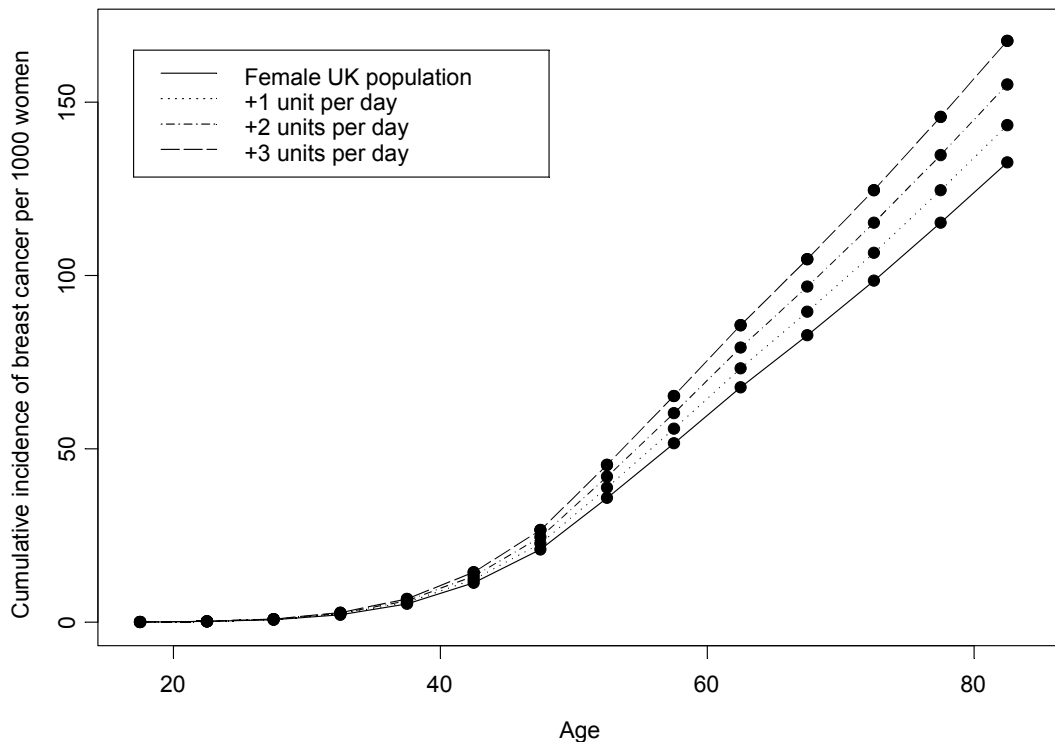
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the average amount of alcohol in some drinks has increased and maybe up to 10grams ethanol.

**There is a lot of information on the consumption of alcoholic beverages regularly obtained as part of the General Household Survey (GHS). (<http://www.statistics.gov.uk/lib2001/index.html>) and the Health Survey for England (HSfE) (<http://www.doh.gov.uk/public/summary1.htm>) Detailed information can be obtained from these sources. These studies examined alcohol in a variety of age groups. The youngest age group was 16-24 y.

Graph of cumulative incidence of breast cancer and effect of drinking additional units of alcohol.

The bold line indicates cumulative incidence at current average intakes



of alcohol (1 unit/day). The dotted lines show the effect of increasing intakes by additional 1,2, or 3 units per day.

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